Mississippi Transitional Refresher Course
Patient Assessment/Physical Exam Course Outline

Minimum course length 16 hours

1. Priorities of Care
    1. Body substance isolation
        1. OSHA Criteria for workplace protection from blood-borne diseases
            1. All body fluids potentially infectious
            2. Use of gloves, gowns, masks and goggles
        2. OSHA Criteria for workplace protection from air-borne diseases
            1. All coughing potentially produces contagious air-borne droplets
            2. HEPA masks
            3. Ventilation
    2. Scene Safety
        1. Priorities for safety
            1. Personal safety – top priority
            2. Safety of the EMS crew
            3. Safety of other responding personnel
            4. Safety of the patient
            5. Safety of the bystanders – if necessary, help bystanders avoid becoming patients
        2. Unsafe scenes must be made safe before providing patient care
            1. Crash and rescue scenes
            2. Toxic substances potentially or actually present
            3. Crime scenes (violent or non-violent in nature)
            4. Unstable surfaces

5. Violent/hostile environments (even verbal violence should be avoided due to risk of escalation

6. Unstable structures

7. Farm emergencies

8. Emergencies involving extremes of weather/temperature

3. Protective clothing: at a minimum, paramedics involved in rescue should have access to and training in the use of:

1. Impact-resistant protective helmet with ear protection and chin strap

2. Safety goggles with vents to prevent fogging

3. Light-weight "turnout coat" that is puncture resistant

4. Slip-resistant waterproof gloves

5. Boots with steel insoles and steel toe protection

6. Self-contained breathing apparatus (SCBA)

3. Scene Size-UP

1. Determine if the scene is safe (review B above)

2. Determine the need for body substance isolation precautions (review A above)

3. Determine the nature of the incident:

1. Trauma:
2. Mechanism of injury
3. Consider spinal precautions
4. Medical: why was EMS activated?

4. Determine the maximum potential number of people already ill or injured and requiring care.

5. Initiate a mass casualty plan if indicated

6. Request additional resources as needed

7. Determine the best access route and staging areas for responders

8. Secure the area as rapidly as possible, clearing unnecessary people from the scene

9. Begin triage activities

2. Patient Assessment – Entails five Priorities:

    1. Initial Assessment – Recognizing and managing all immediate life-threatening conditions.

        1. General impression

            1. Immediately assess the environment
            2. Determine patient's chief complaint
            3. Determine if patient is ill (medical) or injured (trauma)
            4. If ill, identify nature of illness
            5. If injured, identify mechanism of injury

        2. Assess for life-threatening conditions

            1. Level of consciousness – used to establish a base-line mental status from which to make subsequent comparisons – change in the patient's level of consciousness is an important indicator of CNS dysfunction.

            2. AVPU

            3. Altered LOC may be associated with:

                1. Traumatic injury
                2. Numerous medical conditions

                    1. Hypoxia
                    2. Hypoglycemia
                    3. Shock
                    4. Drug misuse/abuse

            4. Airway

                1. Assess patency by:

                    1. Determining if the patient can speak
                    2. Noting the signs of airway obstruction or

respiratoryinsufficiency (stridor,gurgling)
3. Inspecting the oral cavity for foreign objects

2. Any condition that compromises the delivery of oxygen to body tissues is potentially life-threatening and must be managed immediately

3. Airway Compromise Management

1. Contributing factors
2. Management

1) Manual methods (jaw thrust, head tilt-chin lift

2) Suction

3) Position (recovery position for unconscious breathing patients with adequate breathing rate)

4) Airway adjuncts (OPA, NPA)

5) Invasive techniques (Eoa/EGTA, Combitube/PtL or ETT)

6) Foreign Body Airway Obstruction: Follow current recommended national guidelines. If these procedures fail:

1. Direct laryngoscopy
2. Cricothrotomy

4. Breathing

1. Expose and evaluate

1) Wounds (open and closed) – cover open wounds with occlusive dressing

2) Rate

3) Depth

4) Symmetry of chest movement

5) Observe for accessory muscle use (abdomen, shoulders, neck, back)

6) Observe for retractions/bulging (intercostal, suprasternal, supraclavicular), especially pediatric patients

2. Palpate chest wall: Entire rib cage

1) Structural integrity – stablize flail segments with hand/bulky dressings and consider positive pressure ventilations *note:avoid sandbags or IV bags.*

2) Tenderness

3) Crepitus

4) Subcutaneous emphysema

3. Auscultate: listen to all lung fields, anterior, posterior and lateral

1) For the presence of bilateral breath sounds

2) For the presence of extra sounds (crackles [rales] wheezes, rhonchi, rubs, etc.)

3) Listen to patient speak

4. Obtain oxygen saturation reading

5. Assess compliance, if artificially ventilating

6. Breathing compromise management

1) Supplement ineffective respirations with high-concentration oxygen

1. If respirations are less than 10 or greater than 28 per minute, ventilatory assistance may be needed

2) Ventilatory support may include:

1. Synchronizing assisted ventilations

with the patient's respiratory efforts

2. Interposing ventilations as needed to maintain adequate oxygenation

3) If respirations are absent:

1. Rescue breathing with barrier protection

2. Positive pressure ventilation

3. Bag-valve-mask
4. Endotracheal intubation

1) Consider spinal precautions and barrier protection with all airway procedures

2. Circulation:

1. Visual Assessment

1) Quick head-to-toe visual survey to note and control any severe bleeding (trauma patients)

2) Evaluate skin color

1. Can vary by body part and from person to person

2. Normal skin color is dependent on race and can range in tone from pink, ivory to deep brown, yellow, or olive

3. Abnormal skin colors and possible causes:

5. Pallor (decrease in color) ─ shock,

6. Dehydration, fright

7. Cyanosis (bluish color) ─ cardiorespiratory insufficiency, cold

environment

8. Jaundice (yellow-orange color) ─ liver disease, RBC destruction

9. Red ─ fever, inflammation

1. Evaluate skin temperature

10. Normally warm and dry to the touch

11. Wet (clammy or diaphoretic)

12. Hot skin

13. Cold skin

1. Evaluate pulse

14. Normal heart rate

15. Tachycardia (greater than 100 beats/minute)

16. Bradycardia (less than 60 beats/minute)

17. Pulse location may be an indication of the patient's systolic BP

-Radial (systolic pressure of at least 80 mm Hg)

-Femoral (systolic pressure of at least 70 mm Hg)

-Carotid (systolic pressure of at least 60 mm Hg)

1. Evaluate capillary Refill

18. Normal = less than 2 seconds

19. Considered most reliable in infants and young children

1. Signs of inadequate circulation

20. Altered or decreased level of consciousness

21. Distended neck veins

22. Pale, cool, diaphoretic skin

23. Distant heart sounds

24. Restlessness

25. Thirst

1. Management of circulatory failure

26. If a carotid pulse is absent in an unconscious person, begin CPR and cardiac arrest protocols

27. Control severe hemorrhage with direct pressure, elevation, and use of pressure points

28. Provide rapid stabilization and transportation to an appropriate medical facility

29. May include:

-IV fluids
-Other medications

1. Resuscitation

1. After recognizing a life-threatening condition, initiate resuscitative measures as necessary, including:

1. Airway maintenance
2. Ventilatory assistance

3. Cardiopulmonary resuscitation (CPR)

2. Resuscitation Procedures ─ Medical Patients

1. Oxygen and airway control

2. Inserting an IV lifeline to administer drugs or volume-expanding fluid

3. Administering resuscitation medications

4. Applying a PASG, if appropriate

5. Administering electrical therapy if appropriate

3. Resuscitation Procedures ─ Trauma Patients

1. Oxygen and airway control
2. Cervical spine immobilization
3. Inserting IV lifelines for volume-expanding fluid
4. Administering resuscitation medications
5. Applying a PASG, if appropriate

2. Identify Priority Patients

1. Consider:

1. Poor general impression
2. Decreased level of consciousness
3. No response to commands (unresponsiveness)

2. Difficulty breathing

3. Shock (hypoperfusion)

4. Complicated childbirth

5. Chest pain with systolic pressure less than 100 mm Hg

6. Uncontrolled bleeding

7. Severe pain anywhere

8. Multiple injuries

3. Expedite transport of Priority Patients

4. Proceed to focused history and physical examination

30. Focused History and Physical — Medical Patient

    1. Responsive medical patients

        1. Assess patient history

            1. Chief complaint
            2. History of present illness
            3. Past medical history
            4. Current health status

        2. Perform physical examination

    2. Unresponsive Medical Patients

        1. Perform a rapid medical assessment

        2. Position the patient to protect the airway

        3. Assess the head and neck

        4. Assess the chest

        5. Assess the abdomen

        6. Assess the pelvis

        7. Assess the extremities

        8. Assess the posterior aspect of the body

        9. Assess baseline vital signs

        10. Obtain a patient history from bystander, family, friends, and/or medical identification devices/services

31. Focused History and Physical — Trauma Patients

    1. Reconsider Mechanism of Injury

        1. Helps identify priority patients
        2. Helps guide the assessment

2. Significant Mechanisms of Injury

    1. Ejection from a vehicle
    2. Death in the same passenger compartment
    3. Falls > 20 feet (or three times body height)
    4. Rollover of a vehicle
    5. High-speed vehicle collision
    6. Vehicle-pedestrian collision
    7. Motorcycle crash
    8. Unresponsive or altered mental status
    9. Penetrations of the head, chest, or abdomen

3. Hidden Injuries

    1. Seat belts

        1. If seat belts were buckled, they may have produced injuries

    2. Airbags

        1. May not be effective without the use of a seat belt

        2. The patient can hit the steering wheel after deflation

        3. Lift the deployed airbag and look at the steering wheel for deformation

        4. Any visible deformation of the steering wheel should be regarded as an indicator of potentially serious internal injury

    3. Child safety seats

        1. Injury patterns with airbags
        2. Proper use in vehicles with airbags

    4. Infant and Child Considerations

        1. Falls >10 feet (or three times body height)
        2. Bicycle collision
        3. Vehicle in medium-speed collision
        4. Any vehicle collision where the infant or child was unrestrained

32. Rapid Trauma Physical Examination

    1. General Considerations

1. Should be performed on patients with a significant mechanism of injury to determine life-threatening injuries

    1. In the responsive patient, symptoms should be sought before and during the trauma assessment

2. Continue spinal stabilization

3. Reconsider transport decision

4. Assess mental status

5. As you inspect and palpate, look and feel for injuries or signs of injury

2. Assess the Head

    1. DCAP-BLS ― deformities, contusions, abrasions, penetrations, burns, lacerations, swelling

    2. Maintain in-line stabilization

    3. Look

        1. Drainage of blood or fluid the from ears or nose
        2. Raccoon eyes
        3. Battle's sign
        4. Burns of the face, nasal hairs, and mouth
        5. Look at each eye; note whether the eyes are working together

    4. Look in the mouth

        1. Note the color of mucous membranes

        2. Look for blood, vomitus, absent or broken teeth, and a lacerated or swollen tongue

        3. Suction as necessary

    5. Feel the bones of the face

        1. Begin at the bridge of the nose and move laterally toward the ears

        2. Note the presence of any tenderness, instability, or crepitation (TIC)

3. Assess the Neck

1. Maintain in-line stabilization

2. Inspect

    1. DCAP-BLS
    2. Distended neck veins

3. Palpate

    1. Anterior neck for tracheal deviation
    2. Cervical vertebrae for tenderness and deformity
    3. Anterior and posterior neck for subcutaneous emphysema

4. Reassess pulse

5. Apply cervical spine immobilization collar (CSIC)

4. Assess the Chest

    1. Look ― DCAPP-BLS Deformities, contusions, abrasions, penetrations, paradoxical motion, burns, lacerations, swelling

    2. Listen

        1. Apices of both lungs
        2. Midaxillary
        3. Bases of both lungs

    3. Feel ― TIC

        1. Tenderness, instability, crepitation

5. Assess the Abdomen

    1. Inspect and palpate all four abdominal quadrants
    2. Look for DCAP-BLS
    3. Feel for tenderness, rigidity, masses

6. Assess the Pelvis

    1. Look for DCAP-BLS

    2. If there is no obvious pain, feel for TIC

        1. Tenderness, instability, crepitation

2. Pelvic “squeeze”

1. Push down on symphysis pubis
2. Push in on iliac crests
3. Do not rock the pelvis from side to side

7. Assess Extremities

1. Look for DCAP-BLS

2. Feel for TIC and PMS

1. Tenderness, instability, crepitation
2. Pulses, motor, sensation

8. Assess Posterior Body

1. Roll the patient with spinal precautions and assess the posterior body
2. Look for DCAP-BLS
3. Feel for TIC
4. Look for medical identification devices

1. Vital Signs/History

1. Assess baseline vital signs
2. Assess patient history

1. Chief complaint
2. History of present illness
3. Past medical history
4. Current health status

VI. Trauma Patient with No Significant Mechanism of Injury

2. Perform a focused history and physical exam – based on the techniques of examination

3. Perform a focused assessment on the specific injury site

1. Assess baseline vital signs

2. Assess patient history

1. Chief complaint
2. History of present illness
3. Past medical history

4. Current health status

4. Detailed Physical Exam

1. Performed to gather additional information

2. Is patient and injury specific

1. Not all patients require a detailed physical exam

3. General Approach

1. Assess the patient's history

1. Chief complaint
2. History of present illness
3. Past medical history
4. Current health status

2. Examine the patient systematically

1. Place special emphasis on areas suggested by the present illness and chief complaint

4. Mental status

1. Appearance and behavior
2. Posture and motor behavior
3. Speech and language
4. Mood
5. Thought and perceptions
6. Insight and judgment
7. Memory and attention
8. Level of consciousness

5. Signs of distress

6. Apparent state of health

7. Skin color and obvious lesions

8. Height and build

9. Sexual development

10. Weight

11. Posture, gait, and motor activity

12. Dress, grooming, and personal hygiene

13. Odors of breath or body

14. Facial expression

5. Detailed Comprehensive Physical Exam

    1. Terms
        1. Inspection
        2. Palpation
        3. Percussion
        4. Auscultation

6. Apply techniques to detailed comprehensive physical exam

7. Normal and abnormal findings of the following:

    1. Integumentary system
    2. Head and neck
    3. Eyes
    4. Ears
    5. Nose and sinuses
    6. Mouth and pharynx
    7. Neck
    8. Thorax and lungs
    9. Cardiovascular system
    10. Abdomen
    11. Genitalia
    12. Anus and rectum
    13. Peripheral vascular system
    14. Musculoskeletal system
    15. Nervous system
    16. Baseline vital signs

VII. On-Going Assessment

8. Purpose

    1. Continue monitoring the patient's status en route to the hospital and provide treatment as necessary

9. Components

1. Repeat the initial assessment

    1. For a stable patient, repeat and record every 15 minutes

    2. For an unstable patient, repeat and record every 5 minutes (minimum)

2. Reassess mental status

3. Reassess the airway

4. Monitor breathing for rate and quality

5. Reassess the circulation

6. Reestablish patient priorities

7. Reassess and record vital signs

    1. Observe changes (that occur over time) in the patient's condition that may indicate the need for a change in care or treatment

8. Repeat focused assessment regarding patient complaint or injuries

9. Assess interventions

    1. Assess response to management

    2. Continuous assessment of the patient may allow the paramedic to recognize a "trend" in the assessment components

10. Maintain or modify management plan

VIII. Care of Medical vs. Trauma Patients

A. Medical patients

11. Much of the definitive care for medical patients can often be initiated in the prehospital setting

B. Trauma Patients

12. Most trauma patients can receive definitive care only at an appropriate medical facility

13. Patients requiring immediate transport should be stabilized and made ready for transport within 10 minutes after EMS arrival

14. Limit field management to:

    1. Airway control, ventilatory support, spinal immobilization, major fracture stabilization

10. IV fluid therapy should be done en route to the hospital.